

# Universal Design for Learning

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## *Teacher Template*



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## TABLE OF CONTENTS

<b>Table of Contents</b> .....	<b>2</b>
<b>1. Universal Design for Learning</b> .....	<b>3</b>
1.1. Introduction .....	3
1.2. Three Primary Brain Networks (Research) .....	3
1.2.1. Recognition Network (What Am I Learning?).....	4
1.2.2. Strategic Network (How Am I Learning?) .....	4
1.2.3. Affective Network (Why Am I Learning?).....	5
1.3. UDL Lesson Plan Template .....	5
1.4. UDL Lesson Plan Example: Language Arts .....	7
1.5. UDL Lesson Plan Example: STEM.....	10
1.6. Links .....	14
1.7. References.....	14

## 1. UNIVERSAL DESIGN FOR LEARNING

Primary Resource: National Center on Universal Design for Learning

### 1.1. INTRODUCTION

Universal Design for Learning (UDL) is a framework for teaching and learning that includes proactive planning of curriculum (goals, assessments, methods, and materials.) According to the UDL Center, “UDL framework is out-of-the box thinking that differentiates for all, rather than using a one-size-fits-all approach. This type of planning takes into account the numerous ways students learn. According the NCUDL, UDL is based on a variety of research from different fields such as education, psychology, and neuroscience. It is organized around three learning networks of the brain: recognition network, strategic network, and affective network.”

UDL is guided on a set of principles for the curriculum development, which will give all students equal opportunities to learn. According to the Center for Applied Special Technology, “the three principles of UDL focus on providing instruction that: (a) includes multiple means of content and skill instruction, giving students options for acquiring information and knowledge; (b) offers multiple means of engagement, acknowledging students’ varied interests, as well as their diverse ability and motivation levels; and (c) provides multiple ways for students to demonstrate what they know and are able to do.” UDL is a framework to help create goals, methods, materials, and assessments that provide flexible approaches teachers can customize and adjust for all students’ needs.

According to *Teaching strategies: A guide to effective instruction*, “if the general education teacher sets up instruction and assessment based on UDL principles, multiple options for how students engage with learning activities, and how they communicate their understanding and skills (assessment) will be present.” By providing a range of options available for all students to demonstrate and show what they know through assessments, the teacher reduces the amount of time spent adapting or modifying assessments for specific students.

Below is information regarding the three learning networks of the brain, UDL guidelines and principals, example lessons, a template, and a variety of resources and links to assist with lesson development. Individuals offer a diversity of skills, needs, and interests to learning and UDL can help bring them to the classroom.

### 1.2. THREE PRIMARY BRAIN NETWORKS (RESEARCH)

According to the National Center on Universal Design for Learning (2015) there are three primary brain networks: recognition network, strategic network, and affective network.

**Recognition network:** According to National Center on Universal Design for Learning, “how we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks. This stage of the lesson is when the teacher will present what information will be learned in different ways.”

**Strategic network:** According to National Center on Universal Design for Learning, “how we plan and perform tasks, as well as how we organize and express our ideas. For example, writing an essay or solving a math problem are strategic tasks. This stage of the lesson, allows for students to approach learning tasks and demonstrate what they know in different ways.”

**Affective network:** According to National Center on Universal Design for Learning, “how learners become engaged and stay motivated, as well as how they are challenged, excited, or interested. This stage of the lesson is when the students are stimulated with interest and motivation for learning. The teacher will offer strategies that will engage students to keep their interests.”

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### 1.2.1. RECOGNITION NETWORK (WHAT AM I LEARNING?)

Representation: According to National Center on Universal Design for Learning, “students identify and comprehend information differently when it is presented to them. For instance, those with learning disabilities (dyslexia) or cultural differences will require different ways to approach content. Others may understand learning quicker through visual instead of printed text. Students can make more connections when multiple representations are used. There is not one way to represent content that will work for all students. The teacher must provide different options for representation to meet the needs of all learners” (National Center on Universal Design for Learning, 2015).

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#### 1.2.1.1. GUIDELINE/PRINCIPLE I. PROVIDE MULTIPLE MEANS OF REPRESENTATION

The following guidelines are provided by the UDL Center for providing multiple means of representation. They contain information about perception, language, symbols, and comprehension. Click on the link to view the [UDL multiple means of representation guidelines](#).

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### 1.2.2. STRATEGIC NETWORK (HOW AM I LEARNING?)

According to National Center on Universal Design for Learning, “students are different in ways that they direct a learning environment and show what they know. For example, students with learning disabilities, students who struggle with physical disabilities, those with special gifts and talents, those who have language barriers, and so forth approach learning tasks very

differently. Some may be able to express themselves well in speech but not written text. There is not one mean of action and expression that will be optimal for all learners; providing options for action and expression is essential” (National Center on Universal Design for Learning, 2015).

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#### 1.2.2.1. GUIDELINE/PRINCIPLE II. PROVIDE MULTIPLE MEANS OF ACTION AND EXPRESSION

The following guidelines are provided by the UDL Center for providing multiple means of action and expression. They contain information about providing ways for children to express and communicate their learning. Click on the link to view the [UDL multiple means of action and expression guidelines](#).

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#### 1.2.3. AFFECTIVE NETWORK (WHY AM I LEARNING?)

According to National Center on Universal Design for Learning, “affect represents an essential element to learning, and learners differ noticeably in the ways in which they can be engaged or motivated to learn. Some learners are highly engaged by impulsiveness and innovation while others are disengaged by those features, preferring strict routine. Some learners might like to work alone, while others prefer to work with their peers. In reality, there is not one means of engagement that will be optimal for all learners in all contexts; therefore, providing multiple options for engagement is essential” (National Center on Universal Design for Learning, 2015).

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#### 1.2.3.1. GUIDELINE/PRINCIPLE III. PROVIDE MULTIPLE MEANS OF ENGAGEMENT

The following guidelines are provided by the UDL Center for providing multiple means of engagement. They contain information about providing ways for children to find interest, sustain effort, and persist in their learning. Click on the link to view the [UDL multiple means of engagement guidelines](#).

### 1.3. UDL LESSON PLAN TEMPLATE

<b>Topic:</b>
<b>Standards:</b>
<b>Learning Objectives:</b>
<b>Learning Intentions:</b>

**Today you will:**

**So that:**

**You know you will have this when:**

**Stage 1: What Am I Learning?**

(Teacher presents information in different ways)

**Vocabulary:** Pre-teach vocabulary, symbols, and complex terms (table, model, video, photograph, animation, manipulative)

**Background Knowledge:** Active prior knowledge, prerequisite information, big ideas, chunk information

**New Information:** Teach new information in various ways (videos, graphs, PowerPoint, etc.)

**Stage 2: How Am I Learning?**

(Students can express their learning in different ways)

**Express Learning: Ways to show learning** (Text, speech, drawing, art, videos, music, PowerPoint, create a book, ToonDoo, Powtoon, Poem, Newspaper, Dance, oral report, building models, software programs, voice recorders, etc.)

Provide ways for students to edit their work: Spellchecker, Grammarly, etc.

**More Challenging:** Provide a model or process of a more challenging activity.

**Stage 3: Why Am I Learning?**

(Students are challenged, interested, and engaged)

**Goal Setting: What is the student's goal?** (This activity is authentic and connects to real world audience. Provide learner with guides or checklists)

**Project Planning and Self-monitoring**

**Sustaining Effort and Persistence:** (Mindset, rubrics, feedback, and reflection)

#### 1.4. UDL LESSON PLAN EXAMPLE: LANGUAGE ARTS

**Topic:** Informational Text- Point of View

**Standard:** Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

**Learning Objectives:**

- I can define point of view as how the author feels about the situation/topic of a text.

**Learning Intentions:**

**Today you will:** Analyze texts for structure, purpose, and viewpoint

**So that:** You will gain insight and strengthen your understanding of a text.

**You know you will have this when:** You can explain why the text matters to the author and determine how an author's point of view affects the text.

**Stage 1:** What Am I Learning? (Teacher presents information in different ways)

**Vocabulary Terms:** Point of View, Perspective, Purpose, Audience, Account, Author's Purpose

1. Pick a graphic organizer that works for you:

Concept Definition Map  
Frayer Model  
Stephens Vocabulary Elaboration  
SAW- Student Action Words  
Super Word Web

2. Pick a method to look up the word:

[Visuwords](#)

[Shahi](#)

[VocabAhead](#)

[Dictionary](#)

Print Dictionary

### Background Knowledge:

- Watch [Introduction to Reading Skills: Narrator's Point of View](#) video: Think about 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> person.
- Play [Bouncing Ball POV Game](#)

### New Knowledge:

Read the text "[When I grow up, I want to be...](#)" by Margaret Webb Pressler - This is an informational text about career dreams of 4 different people.

Watch the video on [Analyzing multiple points of view](#) or read the Analyzing multiple points of view powerpoint.

During the video/powerpoint, follow these steps:

1. Skim the article and highlight key words from the question.
2. Create a chart in your notebook for the information you find.
3. Reread the chart and ask yourself, "Do any of these ideas sound similar to one another other?" Use sticky notes to write your answers.
4. Write a paragraph in your notebook that will explain how the ideas you found are related.

In notebook: Pick an author and explain how he/she felt about reading. What was their point of view or perspective in the text? (Remember spelling and grammar count)

**Stage 2: How Am I Learning?** (Student can express their learning in different ways)

### Express your learning: (This should not last more than 2 days)

Pick a way to show what you learned

#### Explain

- Write a paragraph
- Create your two articles
- Powerpoint

- Oral Report
- Prezi
- Debate with evidence
- Powtoon
- Scratch
- Newspaper
- Song
- Virtual Reality- Write from two different perspectives

Provide tools (spell checker or grammar)

- Use these tools to edit your work
  - SpellChecker
  - Grammarly

### Challenge

Read and annotate one of the complex texts. Answer the following questions in your notebook:

- [Disney's "Zootopia" wins Oscar for best animated movie over "Moana"](#)
  - [Orange crush: Doc tells parents to give kids fruit instead of fruit juice](#)
1. What is the author's point of view and how does the author feel about the situation/topic of the text?
  2. Explain the author's purpose of writing the text. How did the author's point of view influence the writing of the text?

**Stage 3: Why Am I Learning?**

(Students are challenged, interested, and engaged)

### Authentic Learning:

**Goal Setting:** What do you want to learn about? Or What do you want to improve? Fill out the goal setting worksheet. We will work together to accomplish both our goals.

#### Student Goal:

Video games: I want to learn if video games hurt your brain and make a video for younger grades about my findings.

Teacher goal: Two authors on same topic. You can explain why the text matters to the author and determine how an author's point of view affects the text.

For an example click here: [Goal Sheet](#)

**Planning:** How are you going to accomplish your goal?

For a template click on the link: [Planning Guide](#)

**Self-monitoring:** How will you assess yourself?

For a template click on the link: [Self-monitoring Guide](#)

**Sustaining Effort and Persistence:** (Persistence is evidenced by willingness to continue to try in the face of challenge. For students, this persistence can be a driving force to help them achieve their academic, as well as personal goals. The idea of persistence in the face of adversity is often described as an outcome of high motivation. The sections below are to help with effort and persistence. Click this brief clip from the BBC documentary for more information: [The Human Body](#) )

**Mindset Activities:** “No matter what your ability is, effort is what ignites that ability and turns it into accomplishment.” Carol Dweck

- [What is growth and fixed mindset?](#) (Video)
- [Grit](#) (Video)
- [Kid President Pep Talk](#) (Video)
- Reflection: [Questions about growth and fixed mindset.](#)

**Feedback** (How are you going to provide feedback?)

- Conferences with teacher
- Peer Feedback:  
For an example of feedback strategy click on the link: [6 hats](#)

**Assessment**

- Rubric (You can create your own rubric)
- An example you can click on [Rubric Example.](#)

**Reflection**

- Diary
- Google Doc
- Notebook
- Audio Recorder

## 1.5. UDL LESSON PLAN EXAMPLE: STEM

**Topic:** Electrical Circuits

- Science Inquiry Application:
  - Observe and ask questions about the natural environment;
  - Plan and conduct simple investigations;
  - Employ simple equipment and tools to gather data and extend the senses;
  - Use appropriate mathematics with data to construct reasonable explanations;
  - Communicate about observations, investigations and explanations;

- Review and ask questions about the observations and explanations of others.
- Energy can be transformed from one form to another or can be transferred from one location to another.
- Electric circuits require a complete loop of conducting materials through which an electrical energy can be transferred.

**Learning Objectives:**

- I can connect a simple circuit using a battery.
- I can build and make observations about a simple circuit.
- I can explain how energy can be transferred from one location to another.

**Learning Intentions:**

**Today you will:** Observe and build simple circuits

**So that:** You will understand electric circuits require a complete loop of conducting materials through which an electrical energy can be transferred.

**You know you will have this when:** You can explain how energy can be transferred from one location to another and why energy transferred is important.

**Stage 1: What Am I Learning?** (Teacher presents information in different ways)

**Vocabulary Terms:** Simple Circuit, Battery, Observation, Wire, Current, Transfer, Energy

1. Pick a graphic organizer that works for you.
  - Concept Definition Map
  - Frayer Model
  - Stephens Vocabulary Elaboration
  - SAW- Student Action Words
  - Super Word Web
  
2. Pick a method to look up the word
  - [Visuwords](#)
  - [Shahi](#)
  - [VocabAhead](#)
  - [Dictionary](#)
  - Print Dictionary

**Background Knowledge:**

*Think, Write, Share:* Students think about what they know about a circuit or a light bulb, write a response, and then share with their partners.

**New Knowledge:**

1. Circuits Powerpoint and Notes
2. [Simple Circuit Bill Nye Video Clip](#)

3. Create a simple circuit by using materials from class. You can look up instructions online or watch the video: [How to make a simple circuit](#)
4. [Circuits game](#)

**Stage 2: How Am I Learning?**

(Student can express their learning in different ways)

**Express your learning: (This should not last more than 2 days)**

Pick a way to show what you learned

Explain

- Write a paragraph explaining how a simple circuit works
- Draw and label picture of a simple circuit
- Powerpoint explaining how a simple circuit works
- Powtoon explaining how simple circuit works
- Scratch: code a simple circuit
- LittleBits by building simple circuits. A set of task cards provide different challenges
- Students use Makey Makeys to create a simple circuit
- Video on simple circuits

Provide tools (spell checker or grammar)

- Use these tools to edit your work
  - SpellChecker
  - Grammarly

**Challenge**

Provide a model or process of a more challenging activity (pick 2).

- Design and construct a switch that can turn a light on and off in a circuit.
- Build a circuit that contains two light bulbs.
- Analyze the differences between working and nonworking circuits and determine patterns and trends in the experimental evidence. Formulate a conceptual model of a working circuit based upon the trends in the experimental evidence.
- Pictorially represent ways to assemble the circuit and note which are able to light the bulbs and which are not. Compare and contrast circuits that light the bulbs with circuits that do not light the bulbs.
- Outline the functions of the components of a simple electric circuit (conductor, insulator, energy source, light bulb, switch).
- Pictorially represent the flow of energy in a circuit in which a battery is used to light a bulb.
- Recognize that a working circuit requires a continuous loop of electrical conductors.
- Complete [Basic Circuit Worksheet and Activities](#)

**Stage 3: Why Am I Learning?**

(Students are challenged, interested, and engaged)

**Authentic Learning (Connect to real world)**

**Goal Setting:** What do you want to learn about? Or What do you want to improve? Fill out the goal setting worksheet. We will work together to accomplish both our goals.

Student goal: I want to build my own electric guitar.

Teacher goal: I can explain how energy can be transferred from one location to another.

For an example click on the link: [Music Goal Sheet](#)

**Planning:** How are going to accomplish your goal?

For a template click on the link: [Planning Guide](#)

**Self-monitoring:** How will you assess yourself?

For a template click on the link: [Self-monitoring Guide](#)

**Sustaining Effort and Persistence:**

**Mindset Activities:** “The measure of intelligence is the ability to change. - Albert Einstein

- What is neuroplasticity:?
- [Brain is like a muscle](#)
- Reflection: Try to think about the brain like a muscle. Lifting weights and exercising muscles make them stronger, right? In the same way, exercising our brain makes it stronger- when we learn new things, our brains actually become denser and heavier. Answer Mojo's question. Can he become smarter? Can you?

**Feedback** (How are you going to provide feedback?)

- Conferences with teacher
- Peer Feedback:  
For an example of feedback strategy click on the link: [6 hats](#)

**Assessment**

- Rubric (You can create your own rubric)
- An example you can click on [Rubric Example](#).

**Reflection** (Pick one way to reflect on your learning)

- Diary
- Google Doc
- Notebook
- Audio Recorder
- Other \_\_\_\_\_

## 1.6. LINKS

### **National Center on Universal Design for Learning**

- Information and resources for UDL

<http://www.udlcenter.org/aboutudl/whatisudl>

- Graphic organizer and guidelines for UDL

[http://www.udlcenter.org/aboutudl/udlguidelines/udlguidelines\\_graphicorganizer](http://www.udlcenter.org/aboutudl/udlguidelines/udlguidelines_graphicorganizer)

- Examples and resources for implementation

<http://www.udlcenter.org/implementation/examples>

### **CAST: Transforming Education through Universal Design (Video)**

- Information about UDL: In depth information about representation, action and expression, and engagement.

<https://www.youtube.com/watch?v=bDvKnY0g6e4&list=PL76D91A0974F96411&index=1>

### **Universal Design for Learning (UDL): Principals and Practice (Video)**

- National Center on UDL Director David Rose explains how UDL helps meet the most pressing issues facing educators today. Drawing on brain research and the latest learning sciences, Dr. Rose describes the three UDL principles and what they mean for classroom practice.

<https://www.youtube.com/watch?v=pGLTJw0GSxk>

### **The UDL Guidelines: Designing Curriculum that Works for All (Video)**

- Center Director David Rose walks us through the UDL Guidelines, a detailed framework of principles, guidelines, and checkpoints for creating curriculum that supports all learners. The UDL Guidelines were developed over the past decade with federal and private support.

<https://www.youtube.com/watch?v=rfsx3DGpv5o&feature=related>

## 1.7. REFERENCES

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